

This listing of claims will replace all prior versions and listings of claims in the instant application:

CLAIMS

1 through 10 (Cancelled)

11. (New) A data and voice digital communication network installation providing a backbone communication bandwidth, said network installation comprising:

optical transmission means for transmitting communications signals consisting of addressed digital logic packets of at least 2.5 gigabits per second between geographically dispersed primary hubs and having a capacity of one wavelength;

at least one light transmitting fibre through which the transmission is effected between said primary hubs;

means positioned at said primary hubs for effecting an input and output of the communication signals at a rate which is at least said bandwidth;

at least one intermediate means, defining a secondary hub which is substantially geographically dispersed from said primary hubs, to effect an input and output through addressed digital logic packets into the fibre; and

means for effecting transmission and receiving of signals from said secondary hub to a further geographically dispersed location at a rate less than said bandwidth between said primary hubs;

wherein said secondary hub is configured to provide the lesser bandwidth rate by providing access to a proportion of the backbone communication bandwidth which is less than one wavelength.

12. (New) A data and voice digital communication network installation including a plurality of packet communication networking hubs, logically configured in a hierarchy of at least two tiers, the network installation comprising a transmission backbone network linking said hubs, wherein said linking includes at least one light transmitting fibre and having means to extract signals from and apply signals to the fibre with at least a proportion of end to end signals being carried by the fibre, said proportion being less than a single wavelength being carried by the transmission backbone, said signals being extracted to and

received from the packet communications networking hubs, at a plurality of selected locations, including at least one of which is not located at a primary hub, and wherein the logical configuration of a given hub is substantially independent of its physical connectivity to the transmission backbone network.

13. (New) A data and voice digital communication network installation as in claim 12, wherein a logical connectivity scheme is configured and operated to provide a first logical connectivity mesh linking each of a plurality of hubs comprising a first hierarchical tier of hubs, at least one second connectivity mesh linking each of a plurality of hubs comprising a second hierarchical tier of hubs to at least two hubs of said first tier.

14. (New) A data and voice digital communication network installation as in claim 13, wherein said logical connectivity scheme further includes point-to-point connectivity between each of a plurality of hubs comprising a third hierarchical tier of hubs and at least one hub from a higher hierarchical tier and point-to-point connectivity between any hub and selected locations external to the communication network scheme.

15. (New) A data and voice digital communication network, comprising:
a plurality of packet communication networking hubs, logically configured in a hierarchy of at least two tiers; and
a transmission backbone network linking said hubs, including at least one light transmitting fibre, extracting signals from and applying signals to the fibre which are at least a proportion of end-to-end signals being carried by the fibre, said proportion being less than a single wavelength being carried by the transmission backbone, said signals being extracted to and received from the packet communications networking hubs, at a plurality of selected locations, including at least one which is not located at a primary hub, wherein the logical configuration of a given hub is substantially independent of its physical connectivity to the transmission backbone network.

16. (New) A data and voice digital communication network as in claim 15, further including the construction and operation of a logical connectivity scheme including a first logical connectivity mesh linking each of a plurality of hubs comprising a first hierarchical

tier of hubs, at least one second connectivity mesh linking each of a plurality of hubs comprising a second hierarchical tier of hubs to at least two hubs of said first tier.

17. (New) A data and voice digital communication network as in claim 16, wherein said logical connectivity scheme further includes point-to-point connectivity between each of a plurality of hubs comprising a third hierarchical tier of hubs and at least one hub from a higher hierarchical tier and point-to-point connectivity between any hub and selected locations external to the communication network scheme.

18. (New) A data and voice digital communication network comprising:
at least one intermediate node; and
a backbone connection connected to said at least one intermediate node for effecting both digital and voice communication solely directed toward providing addressed digital packet transmission, wherein both digital and voice communication over such said backbone connection is by way of such addressed digital logic packets, wherein said at least one intermediate node is configured to provide access to a proportion of the backbone bandwidth being less than a full wavelength, and wherein said communication network is installed in Australia to provide at least one communication network between Sydney and Melbourne which provides for a bandwidth of at least approximately 2.5 gigabits per second.

19. (New) A data and voice digital communication network installation covering the geography of Australia providing a backbone communication bandwidth of at least 2.5 gigabytes/second between geographically substantially dispersed locations being primary hubs, and having at least one light transmitting fibre through which the transmission is effected with means at respective ends, defining primary hubs, of the fibre to effect an input and output of the communication signals at a rate which is at least the said bandwidth, and further having at least one intermediate means being a secondary hub which is substantially geographically dispersed from said locations of the primary hubs to effect an input and output through addressed digital logic packets into the fibre, and means to then effect transmission of and signals from said secondary hub to a further geographically dispersed location at a rate which is less than the said bandwidth between said primary hubs, said secondary hub being

adapted to provide this lesser bandwidth rate by providing access to a proportion of the backbone communication bandwidth which is less than one wavelength.

20. (New) A method of communicating data and voice signals via a digital communication network installation providing a backbone communication bandwidth, said method comprising:

transmitting, via optical transmission means, communications signals consisting solely of addressed digital logic packets of at least 2.5 gigabits per second between geographically dispersed primary hubs and having a capacity of one wavelength;

providing at least one light transmitting fibre through which the transmission is effected between said primary hubs;

providing means positioned at said primary hubs for effecting an input and output of the communication signals at a rate which is at least said bandwidth;

providing at least one intermediate means, defining a secondary hub which is substantially geographically dispersed from said primary hubs, to effect an input and output through addressed digital logic packets into the fibre;

providing means for effecting transmission and receiving of signals from said secondary hub to a further geographically dispersed location at a rate less than said bandwidth between said primary hubs; and

configuring said secondary hub to provide the lesser bandwidth rate by providing access to a proportion of the backbone communication bandwidth which is less than one wavelength.